

NATIONALITY: Canadian**EDUCATION:** B.Sc. (First Class Honours) Biochemistry, University of Calgary, 1971
Ph.D. Zoology, University of British Columbia, 1974**PROFESSIONAL POSITIONS:**

7/11 Cross-appointment, Department of Neuroscience, Carleton University
7/01 – 6/22 **Canada Research Chair** in Molecular Physiology (Tier 1), Carleton University, Ottawa
7/85 - Professor, Institute of Biochemistry, Department of Biology and Department of Chemistry,
Carleton University, Ottawa
7/79 - 6/85 Associate Professor of Biochemistry and Biology, Carleton University, Ottawa
7/74 - 6/79 Assistant Professor of Zoology, Duke University, Durham, North Carolina

PROFESSIONAL HONOURS:

2019 Research Excellence Award, Science Faculty, Carleton University
2017 Distinguished Editorial Board Member of the journal Genomics, Proteomics &
Bioinformatics, cited for 2013–2015
2016 Carleton University Research Achievement Award (also 2008, 2003, 1998, 1992, 1989)
2012 CryoFellow, Society for Cryobiology, elected
2011 Fry Medal, Canadian Society of Zoologists
2010 Flavelle Medal, Royal Society of Canada
2010 Graduate Student Mentor award, Carleton University
2007 Distinguished Alumni Award, University of Calgary
2005-2007 Professor Extraordinary, Botany & Zoology, Stellenbosch University, S. Africa
2004- ISI Highly Cited Researcher
2001-2022 N.S.E.R.C. Canada Research Chair in Molecular Physiology, Tier I
2000 Public Awareness Prize, Canadian Society of Zoologists
1999 Japan Society for the Promotion of Science Fellowship
1998 Ottawa Life Sciences Council, Basic Research Award
1997 Fellow of the American Association for the Advancement of Science, elected
1993-1995 Killam Senior Research Fellowship
1990 Fellow of the Royal Society of Canada, elected
1989 Ayerst Award, Canadian Biochemical Society
1984-1986 E.W.R. Steacie Memorial Fellowship, NSERC Canada
1975-1977 Killam Research Fellowship
1971-1974 NRC Science Centennial Postgraduate Scholarship

PROFESSIONAL ACTIVITIES:**Total research publications:** 963 (to end of 2020)**Plenary & keynote lectures:** 65

Conference scientific committees 6

Symposia organized: 32

Invited lectures at scientific meetings: 119

Invited seminars (university, research stations, public lectures): 407

Contributed communications with students at scientific meetings: 618

SERVICE

N.S.E.R.C. Member, Biological Systems and Functions Evaluation Group (EG 1502), 2015-18
Royal Society of Canada, McLaughlin Medal Nominations to Position Committee, 2005-2011; chair in 2011
Alberta Ingenuity Fund grant selection committee, 2001-2003, 2005
N.S.E.R.C., College of Reviewers, Canada Research Chair program, 2000-2002
N.I.H., National Heart, Lung and Blood Institute review panel, June 2002
N.S.E.R.C.: Member, Grant Selection Committee 31 (Animal Physiology)
Chairman of GSC 31, 1998; Member of GSC 31, 1996-8; Member of membership committee, 1997
Member of major equipment (SCILS & SCORG) committee, 1997
N.S.E.R.C.: Member, Discovery grants evaluation group 1502 “Biological Systems and Functions”, Nov. 2015-Feb. 2018.

Scientific advisor: a) Bio S&T Inc., Lachine, PQ, a biotechnology company, 1997-2005
b) Perkin Elmer Corp., Spectroscopy Demo site (1995-2000)
c) X-Therma Inc. (biomimetic nanotech), San Francisco, USA (since 2016)
<https://x-therma.com/the-team/> “Biology Team”

Editor, Cell and Molecular Responses to Stress, Elsevier Press, 2000-2002

Member of the Series Advisory Board, Ecological and Environmental Physiology (ed. W. Burggren)
Oxford University Press, 2003-

Member of Journal Editorial Boards:

Metabolites (since 2021) MDPI publishers	Cells (since 2020)
PeerJ (since 2012)	Research and Reports in Biology (since 2010)

Past member: Genomics Proteomics and Bioinformatics (2014-2020), Cryo-Letters (1983-2000), Journal of Comparative Physiology B (1994-2018), Journal of Thermal Biology, American Journal of Physiology, Molecular Physiology, Journal of Experimental Zoology, Copeia, Environmental Reviews, Biochemistry & Cell Biology, Experimental Biology Online

PROFESSIONAL SOCIETIES:

Royal Society of Canada
Society for Cryobiology
Canadian Society of Zoologists
Canadian Society of Biochemistry and Molecular & Cellular Biology (past)
American Society of Ichthyologists and Herpetologists (past)
American Association for the Advancement of Science (past)
American Society for Biochemistry and Molecular Biology (past)
Royal Canadian Institute (past)
The Explorers Club of New York (past)

RESEARCH PERSONNEL DIRECTED:

	<u>Past</u>	<u>Current (2020-21)</u>
Visiting researchers	22	-
Postdoctoral fellows	12	-
Ph.D. Students	45	6
M.Sc. Students	74	3
B.Sc. Honours Students	107	2
NSERC USRA	70	0
Dean of Science 1 st yr summer scholars	31	0
Co-op, interns, other student researchers	38	-
Technicians	11	-

CURRENT RESEARCH FUNDING

N.S.E.R.C. Discovery grant: Mechanisms of metabolic rate depression: following nature's way. 4/20 - 3/25. \$390,000

N.S.E.R.C. Canada Research Chair in Molecular Physiology, Tier I: 2001-2022:
salary, benefits, administration, research. \$200,000 per year.

N.S.E.R.C. Research Tools and Instruments: Extreme Life: Microvolume analytics to probe animal adaptation to environmental stress. 4/18-3/19. \$100,499.

Carleton University Faculty of Science Research Achievement Award: \$5000.

CanSeq 150 award: Genome sequencing of wood frog and grey tree frog. 2021. \$5,185

PAST FUNDING

N.S.E.R.C. Discovery (Research) grants:

- 2014-20 Mechanisms of metabolic rate depression: following nature's lead. (6 years)
- 2009-14 Molecular mechanisms of metabolic rate depression. \$725,000
- 2004-09 Molecular mechanisms of metabolic rate depression. \$727,600
- 1999-04 Metabolic arrest and stress tolerance in animals: molecular mechanisms of anaerobiosis, hibernation and estivation. (OGP 6793) \$693,000
- 1994-99 Molecular mechanisms of metabolic arrest in animals: anaerobiosis and estivation. \$505,000
- 1991-94 Molecular mechanisms of metabolic arrest: anaerobiosis, hibernation, and estivation. \$291,000.
- 1988-91 Molecular mechanisms of metabolic arrest and freeze tolerance. \$246,800.
- 1985-88 Metabolic regulation and biochemical adaptation of intermediary metabolism. \$176,000.
- 1982-85 Studies of intermediary metabolism and its control in invertebrates. \$134,200.
- 1979-82 Studies of intermediary metabolism and its control in invertebrates. \$79,300.

N.S.E.R.C. Research Tools and Instruments (Equipment) grants:

- 2016-17 Biochemical adaptation: Analytics to drive next generation research on novel microRNAs and proteins responsive to environmental stress. \$61,997.
- 2013-14 Multiplex-ing our way to the future: advanced technology for metabolic analysis. (Storey KB, Hayley S, Golshani A) \$61,362.
- 2012-13 Life in the slow lane: 2-D electrophoresis for analysis of protein adaptations supporting hypometabolism. \$24,890
- 2011-12 Stress-responsive gene expression and protein adaptation: analysis with CFX96 real-time PCR detection system. \$49,716
- 2009-10 Stress tolerance: gel documentation for analysis of gene/protein/enzyme expression and adaptation. \$41,880
- 2008-09 Instrumentation for studies of animal freeze tolerance: cool, cold and ultra-low! \$18,739
- 2008-09 Laser capture micro-dissection facility. (Perry SF, Gilmour K, Ekker M, Trudeau V, Walsh P, Jonz M, Moon TW, Storey KB) \$142,755.
- 2007-08 Biochemical adaptation: superspeed centrifuge for studies in enzymology and metabolic regulation. \$36,806.
- 2005-06 Proteomic equipment for profiling nuclear and organellar proteins. (Willmore WG, Storey, KB, Smith, ML, Aitken, SM, Golshani, A Miller, JD) \$30,000
- 1999-00 Gene expression and biochemical adaptation: cell culturing equipment. \$9818
- 1999-00 ³²P phosphor imager for molecular biology and biochemistry (J. Cheetham, K. Storey, C. Wyndham, N. Chaly, I. Lambert, M. Smith, P. Vierula). \$40,650
- 1999-00 Micro ultracentrifuge for molecular biology/biochemistry (I. Lambert, K. Storey, C. Wyndham, D. Miller, J. Cheetham, P. Vierula). \$75,406
- 1997-98 Gene expression and biochemical adaptation: analytical equipment. \$24,075
- 1996-97 Protein purification by high resolution liquid chromatography. \$30,996
- 1991-92 LS50 luminescence spectrofluorometer. \$47,383.
- 1990-91 UV/VIS spectrophotometers. \$62,598.
- 1989-90 Liquid scintillation counter. \$35,899.
- 1988-89 Spectrofluorometer and ultralow deep freezer. \$24,100.

1985-86 High Performance Liquid Chromatography. \$25,000.
1979-80 Recording spectrophotometer. \$14,300.

Canadian Foundation for Innovation: Environmental stress adaptation: equipment for genomics, proteomics and enzymology research. 03/02-02/03 \$246,540

Ontario Innovation Trust: Environmental stress adaptation: equipment for genomics, proteomics and enzymology research. 03/02-02/03 \$246,540

N.S.E.R.C. support grant for the Algonquin Park Wildlife Research Station (R. Brooks, S. Desser, K. Storey, J. Sutcliffe, T. Nudds, E. Nol., J. Fryxell, F. Hunter) 4/99-3/02 \$23,800/yr

C.I.H.R.: Hyperglycemia resistance: a unique vertebrate model. 02/03 -02/04 \$10,000
Oxidative Stress Consortium. Project leader: A.K. Grover. Coordinating group members: K. Storey, R. Austin, J. Wilson, P. Singal, P. O'Brien. 1999-2000 \$40,000

Heart and Stroke Foundation of Canada:

Suspended animation: hypometabolic hearts in a primate hibernator. #G-14-0005874; 7/14 – 6/17, \$201,775
Hypothermic and freezing preservation of heart: vertebrate models. #NA-3742, 7/1998 - 6/2000, \$62,750

Canadian Diabetes Association: Mechanisms of extreme hyperglycemia tolerance in a unique vertebrate. 7/97 – 6/98 \$38,455

National Institutes of Health, U.S.A. (GM 43796): Organ cryopreservation: model studies on a freeze tolerant frog. 5/90-4/93 \$357,940; 5/93-4/96 \$380,242

N.S.E.R.C. International Scientific Exchange Award:

- 1) Dr. E. Skorkowski, Gdansk Marine Laboratory, Poland. 3/86 - 3/87 \$9000, and 1/89 - 1/90 \$6000.
- 2) Dr. V.I. Lushchak, Sevastapol, Ukraine, 7/93 - 1/94 \$12,600

Carleton University grants and awards:

Graduate Research grant: 08/04 – 08/05, \$50,000

Research Achievement Award:

5/16-4/17	\$15,000	5/98 - 4/99	\$10,000
5/08-4/09	\$15,000	5/92 - 4/93	\$10,000
5/03 - 4/04	\$15,000	5/89 - 4/90	\$10,000

Infrastructure grant, Faculty of Science: Immobilized enzyme technology. 5/88-4/90 \$50,000.

Graduate Studies and Research grants:

5/99 - 4/00 Stress-activated genes in pancreas identified using cDNA array technology. \$3200
3/85 - 3/86 Regulation of metabolic depression in hibernating mammals. \$3,000.
5/81 - 5/82 Biochemical strategies of cold tolerance in insects. \$2,400;
3/83 - 5/84 Biochemistry of insect cold hardiness. \$3,000.
5/79 - 5/80 Refrigerated superspeed centrifuge. \$5,000.

Canadian Liver Foundation: A model for cryopreservation: studies of liver biochemistry in a freeze tolerant terrestrial frog. 4/84 - 3/86 \$24,000.

Atkinson Charitable Foundation: A model for cryopreservation: freezing tolerance in frogs. 6/82 - 6/84 \$25,600

National Science Foundation (USA) grants:

Metabolic Biology section: The role of octopine and octopine dehydrogenase in cephalopod muscle metabolism. 6/78 - 5/79 \$38,500.
Regulatory Biology section: Strategies of freezing tolerance and overwintering in insects. 9/78 - 9/80 \$50,000.
Held jointly with Dr. J.G. Baust, University of Houston.

RESEARCH ACTIVITIES:

- 1/18-2/18 Visiting researcher, Dept. Zoology, University of Pretoria, South Africa
- 3/14 Visiting researcher, King Abdullah University of Science & Technology, Saudi Arabia
- 2/12 Visiting lecturer & researcher, St. George's University, Grenada
- 6/11 Research scientist, R/V New Horizon expedition, Sea of Cortez, Mexico
- 2/11 Visiting lecturer & researcher, St. George's University, Grenada
- 7/10 Visiting researcher, Sport and Exercise Science, U. Coventry, UK
- 2/08-3/08 Visiting researcher, Sable Systems International, Las Vegas, Nevada
- 1/07-2/07 Visiting researcher, Dept. Botany and Zoology, Stellenbosch University, S. Africa
- 7/05 Visiting researcher, Physiologisches Institut, Universitat Zuerich-Irchel, Switzerland
- 8/04 Visiting researcher, Dept. Botany and Zoology, Stellenbosch University, S. Africa
- 10/99 Visiting fellow, Kyoto Institute of Technology, Japan
- 11/98 Visiting researcher, Hofstra University, Hempstead, New York
- 6/98 Visiting researcher, Harvard Medical School (lab of F. Bunn) and
Massachusetts General Hospital (lab of D. Brown), Boston, Mass.
- 6/97 Visiting researcher, Department of Mechanical Engineering and Lawrence
Berkeley Laboratories, University of California, Berkeley, CA.
- 11/94 - 12/94 Visiting scientist, McMurdo Station, Antarctica
- 2/93 Visiting researcher, Harvard University Medical School, Boston, MA
- 2/92 - 3/92 Visiting researcher, Department of Mechanical Engineering and Lawrence
Berkeley Laboratories, University of California, Berkeley, CA.
- 9/91 - 10/91 Visiting researcher, Dept. Biochemistry, University of Victoria, Victoria, BC.
- 8/90 - 9/90 Visiting researcher, University of Massachusetts, Worcester, MA.
- 2/89 - 3/89 Visiting researcher, Department of Mechanical Engineering and Lawrence
Berkeley Laboratories, University of California, Berkeley, CA
- 8/88 -9/88 Visiting researcher, Marine Research Inst., Univ. Bologna, Cesenatico, Italy.
- 4/84 - 5/84 Sabbatical leave, International Institute of Cellular and Molecular Pathology,
University of Louvain, Brussels, Belgium.
- 2/84 - 4/84 Sabbatical leave, Institute of Enzymology, Univ. Autonoma, Madrid, Spain.
- 8/83 Visiting scientist, Basic Biochemistry Div., Veterans Admin. Hospital, Dallas
- 1/82 Visiting scientist, NMR Facility of the Dept. Cardiology, Johns Hopkins,
University, Baltimore, MD.
- 7/81 - 8/81 Visiting scientist, National Institute on Aging, Baltimore, MD.
- 4/81 - 6/81 Visiting researcher, Marine Biological Association of the U.K., Plymouth, U.K.
Also 4/80 - 5/80, 8/78 - 9/78, 4/77 - 5-77.
- 9/76 - 10/76 Research scientist, R/V Alpha Helix, Amazon Expedition, Brazil.
- 7/76 - 8/76 Visiting researcher and lecturer, Marine Biological Lab., Woods Hole, Mass.
Also 6/75 - 8/75.
- 5/75 Visiting researcher, Pacific Biomedical Research Center, Univ. Hawaii, Honolulu
- 8/73 - 12/73 Research scientist, R/V Alpha Helix, Kona Expedition, Hawaii.

CARLETON UNIVERSITY TEACHING DUTIES

Current courses:

Biochemistry / Biology 2200: Cell Biochemistry & Physiology

Biochem 4908: Honours Research Thesis

Biochem 4907: Honours Essay

Biochem 4901: Selected topics in Biochem

Biology 4901: Directed special studies

Biochemistry 3400: Independent Research II

Biochemistry 2400: Independent Research I

Courses taught in previous years:

Biology 6304: Topics in Comparative Physiology (joint w U Ottawa)

Biochem 4005: Biochemical Regulation

Biol/Biochem 2200: Cell Biochemistry & Physiology

Biology 5501J: Biochemical Regulation

Biology 5003: Comparative Biochemistry

Biology/Biochem 220: Cell Physiol & Biochem

Biochemistry 310: General Biochemistry

Biology 503: Biochemical Adaptation

Biochemistry 402: Macromolecules

Biochemistry 405: Signal Transduction

Biochemistry: Biochemical Techniques

Biochemistry 403: Metabolic Regulation

Biology 230: Introductory Biology (team)

Biology: Marine Invertebrate Zoology

Chemistry 503: Adv. metabolic regulation

Chemistry 65.579, Chem Toxicol (team)

Chemistry 590: Directed studies

Biol 6304 Adv topics animal physiology

Biol 8361: Recent Adv. Animal Physiol.

Zoology 151: Principles of Physiology

Zoology 420: Environmental Physiology

UNIVERSITY ADMINISTRATIVE DUTIES

Current & Recent Committees:

Carleton University Academic Staff Association (CUASA), Grievance Committee. from 2020

Curriculum committee, Biochemistry, ongoing

Search Committee, new Department Chair, Biology, 2015, 2016

Search committee for Director of the Biochemistry Institute, 2016

Search committee, animal physiology/biochemistry faculty position, Biology, 2015

Search committee, protein chemist faculty position, Biochemistry, 2015

Recent Committees:

Search committee, new Departmental Chair, Biology, 2014

Search committee, faculty position in Health Science, Biology, 2012

Graduate admissions & scholarship committee, Biology, 2009, 2010, 2011, 2012

Graduate student mentoring awards committee, University 2011

Radiation Management committee, University.

KENNETH B. STOREY PUBLICATION LIST

SUMMARY:

CAREER TOTAL PUBLICATIONS	10276 (to end of 2021)
Primary journal articles	845
Invited review articles in journals	73
Invited articles in conference proceedings	47
Book chapters	40
Books edited	7
Magazine, encyclopedia, editorial & perspective articles	17

2022

Reviews and Chapters

- Wijenayake, S. and Storey, K.B. 2022. The role of humanin in natural stress tolerance: an underexplored therapeutic avenue. *BBA Gen. Subj.* 1866, 130022. [PMID: 34626747](#)
- Al-attar, R. and Storey, K.B. Lessons from Nature: leveraging the freeze-tolerant wood frog as a model to improve organ cryopreservation and biobanking. *Comp. Biochem. Physiol. B* 261, 110747. [PMID: 35460847](#)
- Akgül, B., Stadler, P.F., Hawkins, L.J., Hadj-Moussa, H., Storey, K.B., Ergin, K., Çetinkaya, R., Paschoal, A.R., Nachtigall, P.G., Tutar, Y., Yousef, M., Allmer, J. 2022. 44 Current challenges in miRNomics. *Methods Mol. Biol.* 2257, 423-438. PMID: 34432289.
- Buffenstein, R., Amoroso, V., Andziak, B., Avdieiev, S., Azpurua, J., Barker, A.J., Bennett, N.C., Briño-Enríquez, M.A., Bronner, G.N., Coen, C., Delaney, M.A., Dengler-Crish, C.M., Edrey, Y.H., Faulkes, C.G., Frankel, D., Friedlander, G., Gibney, P.A., Gorbunova, V., Hine, C., Holmes, M.M., Jarvis, J.U.M., Kawamura, Y., Kutsukake, N., Kenyon, C., Khaled, W.T., Kikusui, T., Kissil, J., Lagestee, S., Larson, J., Lauer, A., Lavrenchenko, L.A., Lee, A., Levitt, J.B., Lewin, G.R., Lewis Hardell, K.N., Lin, T.D., Mason, M.J., McCloskey, D., McMahon, M., Miura, K., Mogi, K., Narayan, V., O'Connor, T.P., Okanoya, K., O'Riain, M.J., Park, T.J., Place, N.J., Podshivalova, K., Pamerter, M.E., Pyott, S.J., Reznick, J., Ruby, J.G., Salmon, A.B., Santos-Sacchi, J., Sarko, D.K., Seluanov, A., Shepard, A., Smith, M., **Storey, K.B.**, Tian, X., Vice, E.N., Viltard, M., Watarai, A., Wywiał, E., Yamakawa, M., Zemlemerova, E.D., Zions, M., Smith, E.S.J.. 2022. The naked truth: busting the myths of naked mole-rat biology. *Biol. Rev. Camb. Philos. Soc.* 97(1), 115-140. [PMID: 34476892](#).

Journal Articles

- Malik, A.I., Storey, J.M. and Storey, K.B. 2022. Regulation of the unfolded protein response during dehydration stress in African clawed frogs, *Xenopus laevis*. *Cell Stress Chaperones*, accepted April 28, DOI 10.1007/s12192-022-01275-z
- Al-attar, R. and Storey, K.B. 2022. RAGE management: ETS1-EGR1 mediated transcriptional networks regulate angiogenesis in wood frogs. *Cellular Signaling*, revised April.
- Hadj-Moussa, H., Hawkins, L.J., Storey, K.B. 2022. Role of microRNAs in extreme animal survival strategies. *Methods Mol. Biol.* 2257, 311-347.
- Hadj-Moussa, H., Eaton, L., Cheng, H., Pamerter, M.E. and Storey, K.B. 2022. Naked mole-rats resist the accumulation of hypoxia-induced oxidative damage. *BBA - Mol. Cell Res.* submitted April 14.
- Singh, G. and Storey, K.B. 2022. Mitochondrial DNA methyltransferases and their regulation under freezing and dehydration stresses in the freeze tolerant wood frog, *Rana sylvatica*. *Biochem. Cell. Biol.* 100(2), 171-178. PMID: 35104156
- Singh, G. and Storey, K.B. 2022. Unfolded protein response and ER associated degradation induced regulation under environmental stress in the freeze tolerant wood frog, *Rana sylvatica*. *Physiol. Biochem. Zool.* submitted Jan 22, 2022.
- Singh, G. and Storey, K.B. 2022. Regulation of the cell cycle under anoxia stress in tail muscle and hepatopancreas of the freshwater crayfish, *Orconectes virilis*. *Comp. Biochem. Physiol. A* 269, 111215. PMID: 35429664. <https://doi.org/10.1016/j.cbpa.2022.111215>
- Singh, G., Bloskie, T. and Storey, K.B. 2022. Tissue-specific response of the RB-E2F1 complex during mammalian hibernation. *J. Exp. Zool. A*, submitted Mar. 1.
- Gupta, A. and Storey, K.B. 2022. A “notch” in the cellular communication network in response to anoxia by wood frog (*Rana sylvatica*). *Cell. Signal.* 93, 110305. PMID: 35283291
- Gupta, A., Breedon, S.A. and Storey, K.B. 2022. Activation of p53 in anoxic freshwater crayfish, *Faxonius virilis*. *J. Exp. Biol.* revised Apr 7.
- Varma, A. and Storey, K.B. 2022. One step purification and regulation of fructose 1,6-bisphosphatase from liver of the freeze tolerant wood frog, *Rana sylvatica*. *Cell Biochem. Function* submitted Feb 25.
- Ingelson-Filpula, W.A and Storey, K.B. 2022. MicroRNA biogenesis proteins follow tissue-dependent expression during freezing in *Hyla versicolor*. *J. Comp. Physiol. B*, submitted mid-Jan
- Ingelson-Filpula, W.A and Storey, K.B. 2022. Naked mole rats, frogs and other animals may hold the secrets to preventing

- brain injury. The Conversation, published: April 26, 2022. <https://theconversation.com/naked-mole-rats-frogs-and-other-animals-may-hold-the-secrets-to-preventing-brain-injury-178970>.
- Breedon, S.A., Gupta, A. and Storey, K.B. 2022. Regulation of apoptosis and autophagy during anoxia in the freshwater crayfish, *Faxonius virilis*. Mar. Biotechnol. submitted Jan. 25.
- Breedon, S.A. and Storey, K.B. 2022. Lost in translation: exploring the regulation of microRNA biogenesis and messenger RNA fate in the anoxic red-eared slider turtle. Oxygen (MDBI), submitted in April 27. Submission ID: oxygen-1724296
- Bloskie, T. and Storey, K.B. 2022. Epigenetics of the frozen brain: roles for lysine methylation in hypometabolism. FEBS J. page proof Apr 14.
- Douglas, K., Logan, S.M. and Storey, K.B. 2022. Status of the Janus kinase-signal transducer and activator of transcription (JAKSTAT) pathway in liver and skin of the freeze tolerant wood frog. Cryobiology submitted Feb. 24. CRYO-D-22-00018
- Lung, Z.D. and Storey, K.B. 2022. DNA damage and repair responses to freezing and anoxia stresses in the wood frog, *Rana sylvatica*. J. Thermal. Biol submitted Feb. 25 Manuscript: TB-D-22-00151
- Biggar, Y., Ingelson-Filpula, W.A. and Storey, K.B. 2022. Pro- and anti-apoptotic microRNAs are differentially regulated during estivation in *Xenopus laevis*. Gene 819, 146236. PMID: 35114277
- English, S.G., Al-attar, R. and Storey, K.B. 2021. NFAT5-mediated transcriptional regulation during dehydration in the African clawed frog. Physiol. Biochem. Zool. Submitted May 16, 2021.
- MacLean, I.A., Varma, A. and Storey, K.B. 2022. Purification and characterization of NADP-isocitrate dehydrogenase in skeletal muscle of *Urociotellus richardsonii*. Mol. Cell. Biochem. Submitted Feb. 11.
- Erman, A., Hawkins, L.J. and Storey, K.B. 2022. MicroRNA, mRNA and protein responses to dehydration in skeletal muscle of the African-clawed frog, *Xenopus laevis*. Gene Rep. 26, 101507.
- Rehman, S., Hadj-Moussa, H., Hawkins, L.J., Storey, K.B. 2022. Regulation of FOXO transcription factors during whole-body freezing in the wood frog, *Rana sylvatica*. J. Exp. Zool. A submitted Nov. 8
- Rehman, S., Varma, A., Gupta, A. and Storey, K.B. The regulation of m6A related proteins during whole-body freezing of the wood frog, *Rana sylvatica*. J. Exp. Zool. A #2022-04-0058 submitted Apr. 6.
- Wollenberg Valero, K., Garcia-Porta, J., Irisarri, I., Feugere, L., Bates, A., Kirchhof, S., Jovanovic Glavas, O., Pafilis, P., Samuel, F.S., Mueller, J., Vences, M., Turner, A.P., Beltran-Alvarez, P. and Storey, K.B. 2021. Functional genomics of abiotic environmental adaptation in lacertid lizards and other vertebrates. J. Animal Ecol. doi: 10.1111/1365-2656.13617. PMID: 34695234
- Vatashchuk, M.V., Hurza, V.V., Bayliak, M.M., Storey, K.B. and Lushchak, V.I. 2022. Metabolic syndrome: lessons from rodent and *Drosophila* models. BioMed Res. Intl. submitted Nov. 8
- Bayliak, M., Vatashchuk, M., Gospodaryov, D., Hurza, V., Demianchuk, O., Ivanochko, M., Burdyliuk, N., Storey, K.B., Lushchak, V.I. 2022. High fat high fructose diet induces oxidative stress and reorganizes intermediary metabolism in male mouse liver: modulating effects of alpha-ketoglutarate. Food Res. Intl. revised April 11
- Semaniuk, U., Gospodaryov, D., Strilbytska, O.M., Kucharska, A.Z., Sokół-Łętowska, A., Burdyliuk, N.I., Storey, K.B., Bayliak, M.M., Lushchak, O., 2022. Chili pepper extends lifespan and confers cold resistance in *Drosophila melanogaster* cohorts by influencing specific metabolic pathways. Food & Function, in press.
- Kuzniak, O.V., Sorochnyńska, O.M., Bayliak, M.M., Klonovskyi, A.Y., Vasylyk, Y.V., Semchyshyn, H.M., Storey, K.B., Garaschuk, O., Lushchak, V.I. 2022. Feeding to satiation induces mild oxidative/carbonyl stress in the brain of young mice. EXCLI J. 21, 77-92. PMID: 35145367
- Gao, X., Shen, S., Niu, Q., Miao, W., Han, Y., Hao, Z., An, N., Yang, Y., Zhang, Y., Zhang, H., Storey, K.B., Chang, H. 2022. Differential bone metabolism and protein expression in mice fed a high-fat diet versus pre-hibernation fattening in Daurian ground squirrels: a comparison between pathological and healthy obesity. Front. Zool. Submitted Sept.7 FINZ-D-21-00105.
- Gao, X., Miao, W., Han, Y., Yang, Y., An, N., Hao, Z., Yan, X., Storey, K.B., Deng, Z., Ding, Y., Zhang, S., Sun, Y., Chang, H. 2020. Comparative study of protein synthesis, autophagy and regeneration in the maintenance of fast/slow muscle in hindlimb unloading rats and hibernating ground squirrels. submitted
- Yin, Y.C., Cong, X., Ji, Y.P., Storey, K.B. and Chen, M. 2022. SMRT sequencing-based full-length transcriptome profile reveals the potential high-temperature tolerance mechanism of *Apostichopus japonicus*. Sci. Total Envir. submitted Jan. 18-2021.
- Wang, Y., Yin, Y., Cong, X., Storey, K.B. and Chen, M., 2022. PacBio isoform sequencing and Illumina RNA sequencing provide novel insights on responses to acute heat stress in *Apostichopus japonicus* coelomocytes. Front. Marine Sci. 8, 815109
- Li, C., Zheng, Y., Cong, X., Liu, H., Storey, K.B., Chen, M. 2022. Molecular and functional characterization of luqin-type neuropeptide signaling system in sea cucumber. Peptides, submitted.
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KENNETH B. STOREY

LECTURES AND CONFERENCE PRESENTATIONS

CAREER SUMMARY

Invited Plenary, Keynote or Named Lectures:	65
Member of Conference Scientific Committees	6
Conference Symposia Organized	32
Invited Lectures in Symposia at Scientific Meetings	119
Invited Seminars (at universities, research stations, public lectures)	407
Contributed Communications with Students at Scientific Meetings	618

PLENARY LECTURES, KEYNOTE ADDRESSES & NAMED LECTURES 2009 - Present (46 others 2008 and earlier):

- Evolutionary adaptations to stress: lessons from animals in extreme environments. Keynote address. Lung health and disease across age, environment and species, Gordon Research Conference, Colby-Sawyer College, New London, NH, Aug. 20-24, 2017.
- Peter Hochachka: roots and branches. Satellite Symposium: 50 years of comparative biochemistry: the legacy of Peter Hochachka. Canadian Society of Zoologists, Winnipeg, Manitoba, May 13-14, 2017.
- Life on pause: Epigenetic mechanisms underlie global metabolic rate depression. Ottawa-Carleton Institute of Biology Conference, Graduate Research Day, University of Ottawa, Ottawa, May 5-6, 2016.
- The edges of life. Ontario Biology Day conference, Carleton University, Ottawa. March 21-22, 2015.
- Lessons in organ preservation from nature. Keynote address, Organ Banking Summit, Palo Alto, CA, February 26-28, 2015.
- The living dead. Plenary lecture, Colloque ExoMod, Centre National de la Recherche Scientifique- Campus Gérard Mégie, Paris, France, February 9-10, 2015.
- Metabolic rate depression: biochemical and molecular mechanisms. Keynote address, Society for Experimental Biology, Manchester, UK. July 1-4, 2014.
- The living dead: metabolic arrest and the control of biological time. Hilgendorf Lecture, Evolution and Ecology Forum, University of Tübingen, Tübingen, Germany, October 24-25, 2013.
- Mammalian hibernation – clinical applications. American College of Cryosurgery (ACCryo 2013), Miami, Florida, USA. January 2-7, 2013.
- Stress response and adaptation: a new molecular toolkit for the 21st century. 1st International Conference on Oxidative Stress in Aquatic Ecosystems. Los Cabos, Mexico, November 20-24, 2012.
- Metabolic mechanisms of mammalian hibernation. Keynote speaker, 14th Chemistry & Biochemistry Graduate Research Conference, Concordia University, November 18, 2011.
- Mammals on ice: Biochemical regulation of winter hibernation. Plenary series. Department of Biomedical and Molecular Sciences, Queen's University, Kingston, September 16, 2011.
- Exploring biochemical adaptations: synthetic intuition on a family farm. Fry lecture, 50th annual Canadian Society of Zoologists, University of Ottawa, May 16-20, 2011.
- Frozen alive: Molecular mechanisms of vertebrate freeze tolerance. Keynote lecture, 11th Extreme Cryo meeting, Edmonton, Alberta, January 29-30, 2010.
- Life in the cold: a biochemist's perspective on animals in winter. Keynote lecture, 39th Annual meeting, German Ecological Society, Bayreuth, Germany, September 14-18, 2009.
- Life in the cold: molecular mechanisms of mammalian hibernation. Keynote lecture, 34th annual APICS/CIC Student Chemistry Conference, St. Francis Xavier University, Antigonish, Nova Scotia, May 14 -16, 2009.
- Life in an ice cube. Keynote lecture, Biology Graduate Research Conference, University of North Texas, Denton, TX, April 25, 2009.
- Metabolic arrest: it isn't just for turtles anymore! How the concepts of Peter Lutz have spread across phylogeny. Peter L. Lutz Memorial lecture, Florida Atlantic University, Boca Raton, FL, March 24, 2009.
- Frozen and alive: ectothermic vertebrates in winter. Keynote lecture, Richard E. Peter Biology Conference (Graduate Research day), University of Alberta, Edmonton, AB, March 5-6, 2009.

CONFERENCE SCIENTIFIC COMMITTEES:

- International Congress of Comparative Physiology and Biochemistry, 10th meeting, Ottawa, Ontario, August 5-9, 2019.
- Society for Cryobiology, 56th Annual Meeting, San Diego, CA, July 22-25, 2019
- Society for Cryobiology, 53rd Annual meeting, Ottawa, Ontario, July 23-27, 2016.
- Sleeping beauties: Dormancy and resistance in harsh environments. Berlin, Germany, May 18-20, 2008.
- Biological motility, Moscow, Russia, May 11-15, 2008.

Society for Cryobiology, 44th Annual Meeting, Lake Louise, Alberta, July 28-August 1, 2007.

SYMPOSIA ORGANIZED: 2014 - Present (27 others 2008 and earlier)

Living at low pace: From the whole organism to the molecule. (co-organizer S. Giroud) International Congress of Comparative Physiology and Biochemistry, 10th meeting, Ottawa, Ontario, August 5-9, 2019.
Nature's way. Society for Cryobiology, San Diego, July 22-25, 2019. (full-day symposium)
Nature's way. Society for Cryobiology, Ottawa, July 23-27, 2016.
Life in the slow lane - depressed metabolism. Society for Experimental Biology, Manchester, UK. July 1-4, 2014. (co-organizer: R. James, Coventry University)
Translational hibernation. American College of Cryosurgery (ACCryo 2014), Key Largo, Florida, January 15-19, 2014.

INVITED LECTURES AT SCIENTIFIC MEETINGS: 2010 - Present (84 others 2009 & earlier)

Living dead: metabolic arrest and the control of biological time [virtual presentation]. August Krogh lecture. August Krogh Symposium, celebrating the 100th anniversary of Professor August Krogh Nobel prize in Physiology & Medicine 1920. Novo Nordisk Foundation, Copenhagen, Denmark, April 21-22, 2022. (invited virtual presentation)
The brain in winter. Keynote Presentation. Neurology 2022: 5th International Conference on Neurology and Neurological Disorders. Rome, Italy, June 16-18, 2022. (invited virtual presentation)
Suspended in time: Molecular responses to hibernation also promote longevity. 3rd World Aging and Rejuvenation Conference, Barcelona, Spain. September 21-22, 2021.
Hibernation and metabolic rate regulation. The Science of Suspended Animation in Deep Space, video conference organized by Translational Research Institute for Space Health (TRISH), Baylor College of Medicine, Aug. 7, 2020.
Oxidative stress: mitochondria and strategies of biochemical adaptation. International Congress of Comparative Physiology and Biochemistry, 10th meeting, Ottawa, Ontario, August 5-9, 2019.
Epigenetics: mechanisms and the control of metabolism. International Congress of Comparative Physiology and Biochemistry, 10th meeting, Ottawa, Ontario, August 5-9, 2019.
Bringing Nature back – can human organs learn from animal adaptations? Society for Cryobiology, San Diego, July 22-25, 2019.
Hypoxia/anoxia adaptation: extremeophiles point to new high altitude experiments. 13th International Conference on Genomics, Shenzhen, China. October 25-28, 2018.
The living dead: mitochondria and metabolic arrest. 4th International Congress of the Serbian Society for Mitochondrial and Free Radical Physiology, Belgrade, Serbia, September 28-29, 2018.
The living dead: Metabolic arrest for survival during winter hibernation. Conference: Bats – A New Model for Healthy Aging. Banbury Conference Center, Cold Spring Harbor Laboratory, March 11-14, 2018.
Turning the switch to OFF: hypometabolism of organs at any temperature. Organ Banking Summit, Boston, August 3-6, 2017.
What do hibernating mammals tell us about the elastic limits of tissue function. American Society for Nutrition, Experimental Biology 2017, Chicago, IL. April 22-26, 2017.
The living dead: mitochondria and metabolic arrest. 115th International Titisee Conference “Evolutionary mitochondrial biology: molecular, biochemical, and metabolic diversity” Titisee, Germany, March 29 - April 2, 2017.
Cold case files: molecular mechanisms of insect winter hardiness. XXV International Congress of Entomology, Orlando, FL. September 25-30, 2016.
Life on pause: epigenetic mechanisms underlie metabolic stasis in cold-adapted animals. 53rd annual meeting, Society for Cryobiology, Ottawa, July 23-27, 2016. *Cryobiology* 73, 429 (2016)
Mammals on ice: molecular secrets of winter hibernation. Wenner-Gren Symposium -Brown Adipose Tissue and Eutherms. Wenner-Gren Center, Stockholm, May 25-28, 2016.
Frontiers in cold hardiness: an "omics" world. 9th International Congress of Comparative Physiology and Biochemistry, Kraków, Poland, August 23-28, 2015.
Decoding the molecular machinery controlling metabolic rate depression. 9th International Congress of Comparative Physiology and Biochemistry, Kraków, Poland August 23-28, 2015.
Controlling biological time: nature has the blueprint. Controlling Biological Time for Organs on Demand - A Vision-setting Workshop. West Point Military Academy, West Point, NY, August 5-6, 2015.
Metabolic arrest and the control of biological time. Controlling Biological Time for Organs on Demand - A Vision-setting Workshop. West Point Military Academy, West Point, NY, August 5-6, 2015.
Nature inspired cryopreservation of human organs. Controlling Biological Time for Organs on Demand - A Vision-setting Workshop. West Point Military Academy, West Point, NY, August 5-6, 2015.
Controlling biological time: Nature has the blueprint. Organ Bioengineering and Banking Roadmap Workshop, Organ Preservation Alliance and White House Office of Science and Technology Policy, Eisenhower Executive Office Building, Washington, DC, May 27-28, 2015.

Protecting cells and proteins in multiple organ systems. Organ Banking Summit, Palo Alto, CA, February 26-28, 2015.

Heat shock proteins in dormancy: life in the cold. 7th International Symposium on Heat Shock Proteins in Biology and Medicine, Washington, DC. November 1-5, 2014.

Metabolic rate depression: the heart in winter. 2nd Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators. Winnipeg, MB, September 4-6, 2014.

Oxidative stress and the marine environment - "radical" management. 8th meeting, Canadian Oxidative Stress Consortium, Carleton University, June 11-13, 2014.

Forever young: what turtles can tell us about aging. American Aging Association, San Antonio, Texas, May 30-June 2, 2014.

Mammalian hibernators - insight into disuse atrophy and insulin signaling. American College of Sports Medicine, Orlando, Florida. May 27-31, 2014.

Suspended animation and space travel. 3rd International Space Health Forum on Human Energy Conservation on Earth and in Space. Sponsored by Taksha Institute for Space Health and Aging, Old Dominion University, Hampton, Virginia, April 3-4, 2014.

Epigenetics and the regulation of hypometabolism. Epigenetics in Comparative Physiology, JEB Symposium, Buffalo Mountain Lodge, Banff, Alberta, March 29 – April 2, 2014.

A new molecular toolkit for the 21st century: hibernation and beyond. American College of Cryosurgery (ACCryo 2014), Key Largo, Florida, January 15-19, 2014.

Living in the cold: a new molecular toolkit for cryobiology in the 21st century. CRYO2013, 50th Annual Meeting, Society for Cryobiology, Bethesda, Maryland, July 28-31, 2013.

Metabolic depression: from the intertide to the open ocean. 1st International Conference on Oxidative Stress in Aquatic Ecosystems. Los Cabos, Mexico. November 20-24, 2012.

Biochemical adaptation to freezing environments. 26th Annual meeting, Federação de Sociedades de Biologia Experimental (FeSBE), Rio de Janeiro, Brazil, August 24-27, 2011.

How nature solves the problem of ischemia and reperfusion. Resuscitation Science Symposium, American Heart Association meeting, Chicago, Illinois, November 13-14, 2010.

Hot and not bothered: Molecular rules for desert life. American Physiological Society Intersociety Meeting, Global Change & Global Science: Comparative Physiology in a Changing World, Westminster, Colorado, August 4-7, 2010.

Animals, molecular adaptations and climate change: how will organisms cope? Memorial symposium for foundation of the Insect Biomedical Research Center, Kyoto Institute of Technology, Kyoto, Japan. March 26, 2010.

Insect cold hardiness – the secret is in the genes. International Symposium on Drosophila Bio-Resources, Kyoto Institute of Technology and Enryakuji Temple, Kyoto, Japan. March 17-18, 2010.

INVITED SEMINARS: UNIVERSITIES, RESEARCH STATIONS & PUBLIC LECTURES: 2015 - Present (378 others 2014 & earlier)

Life in limbo (video lecture). Department of Biology, University of Ottawa, November 4, 2021.

Life in limbo (video lecture). Queen's College, City University of New York, NY, September 1, 2021.

Life in limbo: Mechanisms of mammalian hibernation. Shaanxi Key Laboratory for Animal Conservation, College of Life Sciences, Northwest University, Xi'an, China, April 16, 2021. (video lecture)

The living dead: metabolic arrest and the biochemistry of hibernation. University of the Sunshine Coast, Queensland, Australia, December 11, 2020. (video lecture)

The living dead: the biochemistry of stress-induced torpor across the animal kingdom. Carleton Chemistry & Biochemistry Society October 22, 2020. (video lecture)

The living dead: metabolic arrest in marine animals. Department of Biology, Carleton University, Ottawa, October 2, 2020. (online presentation)

Metabolic arrest – a key adaptation for animal survival in changing marine environments. Center for Coastal Oceans Research and Dept. Biological Sciences, Florida International University, Biscayne Bay Campus, North Miami, March 4, 2020.

The living dead: metabolic arrest and the control of biological time. Department of Biological Sciences, Florida Atlantic University, Boca Raton, March 2, 2020.

The living dead: metabolic arrest and animal adaptation for survival in changing environments Department of Biological and Marine Sciences, University of Hull, Hull, UK, October 22, 2019.

Survival in extreme environments: mammalian torpor and hibernation. Honours Research day, Department of Biology, Queen's University, Kingston, Ontario, March 8, 2019.

Living dead: metabolic arrest and survival in marine environments. School of Biological Sciences, The University of Hong Kong, October 22, 2018.

Metabolic arrest in mammals. Department of Zoology, University of Pretoria, South Africa, February 9, 2018.

Strategies for expanding international partnerships from NSERC funding. Invited panel speaker. Science and Research Sector, Innovation, Science and Economic Development Canada. Ottawa, January 18, 2018.

Living dead: metabolic arrest and the control of biological time. Department of Medicine, University of Illinois at Chicago, Chicago, IL, April 26, 2017.

The living dead: metabolic arrest and the control of biological time. School of Biological Sciences, Royal Holloway University of London, Egham, UK, March 22 2017.

Metabolic arrest, estivation and survival strategies in the marine environment. Evenings at Whitney, Whitney Laboratory for Marine Bioscience, St. Augustine, FL. February 9, 2017.

Hypometabolism and survival of environmental extremes. Department of Biology, University of Florida, Gainesville, FL. February 7, 2017.

The living dead: metabolic arrest and the control of biological time. Department of Biology, University of Ottawa, Ottawa, ON. November 28, 2016.

Survival strategies for life in extreme environments. Department of Biology, Queen's University, Kingston, ON. November 22, 2016.

The living dead: metabolic arrest and the control of biological time. Department of Biology, University of Waterloo, Waterloo, ON. October 21, 2016.

The living dead: metabolic arrest and the control of biological time. College of Marine Science, University of South Florida, St. Petersburg, FL. September 23, 2016.

Insects: enzyme phosphorylation drives winter metabolism of cryoprotectants. Department of Zoology, Stockholm University, Stockholm, Sweden, May 25, 2016.

The living dead: estivation and survival strategies in a marine environment. Trent University, Department of Biology, Peterborough, ON, March 16, 2016.

Metabolic stasis: hypometabolism and animal survival in extreme environments. Department of Biological Sciences, SUNY Binghamton, Binghamton, NY, November 13, 2015.

The living dead: natural metabolic arrest and implications for organ preservation. Department of Mechanical Engineering and Engineering Sciences, University of North Carolina at Charlotte, Charlotte, NC, October 29, 2015.

The living dead: torpor and hibernation as mammalian strategies of winter survival. Department of Biological Sciences, Fordham University, New York, October 14, 2015.

Survival strategies for life in extreme environments: biochemical mechanisms of metabolic rate depression. Department of Biochemistry and Biotechnology, Precarpathian National University, Ivano-Frankivsk, Ukraine, August 18, 2015.

Epigenetics, gene regulation and hypometabolism. Department of Pathology, University of Washington, Seattle, WA. June 3, 2015.

Epigenetics: gene regulation and hypometabolism. College of Science, Engineering and Mathematics, Bethune-Cookman University, Daytona Beach, Florida, February 2, 2015.

The living dead: Metabolic arrest and the control of biological time. College of Science, Engineering and Mathematics, Bethune-Cookman University, Daytona Beach, Florida, February 2, 2015.

CONTRIBUTED COMMUNICATIONS AT SCIENTIFIC MEETINGS BY THE STOREY LAB: 2018 - Present (558 others 2016 & earlier)

Following are recent presentations 2018-2022; most are by trainees from my lab but some (*) report research with collaborators from other institutions.

2022. Canadian Society for Chemistry Conference and Exhibition, Calgary, June 13-17 2022.
Berezovski, M. and Storey, K.B. Proteomic analysis of hibernating wood frog.

2022

Society for Cryobiology, Dublin, Ireland, July 19-22, 2022 (online)

Gupta, A. and Storey, K.B. Activation of the Hippo pathway in *Rana sylvatica*: yapping stops in response to anoxia.

2021

Chemistry and Biochemistry Graduate Research Conference (24th annual), Concordia University, Montreal, Nov. 19, 2021.

Gupta, A. and Storey, K.B. Activation of the Hippo pathway in *Rana sylvatica*: yapping stops in response to anoxia.

Varma, A. and Storey, K.B. One step purification and regulation of fructose 1,6-bisphosphatase in the liver of freeze tolerant wood frog, *Rana sylvatica*.

Erman, A. and Storey, K.B. Investigating the effects of microRNA expression on the kidney of the thirteen-lined ground squirrel, *Ictidomys tridecemlineatus*, during torpor.

Rehman, S., Gupta, A., Varma, A. and Storey, K.B. Regulation of m6A related proteins during whole-body freezing of the wood frog, *Rana sylvatica*.

Society for Cryobiology, annual meeting (virtual), July 20-23, 2021.

Ingelson-Filpula, W.A. and Storey, K.B. The grey tree frog, *Hyla versicolor*, exhibits differential microRNA biogenesis and transcriptomics in response to freezing. (oral)

Singh, G., Al-attar, R. and Storey, K.B. Multi-faceted role of autophagy in the freeze tolerant wood frog. (oral)

Canadian Society of Zoology, annual meeting (virtual), May 17-21, 2021

Logan, S.M. and Storey, K.B. Hibernator white and brown fat differ in how they use microRNAs to survive extreme winter conditions. (oral)

Ingelson-Filpula, W.A. and Storey, K.B. The biogenesis and bioinformatic analysis of microRNA during freezing in the grey tree frog, *Hyla versicolor*. (oral)

Institute of Engineering and Medicine BioSciTech Symposium, University of Minnesota. Apr 12, 2021.

Hadj-Moussa, H. and Storey, K.B. The answer to all of your questions is: MicroRNA. (online oral presentation).

2020

No conference presentations in 2020 due to covid-19

2019

Chemistry and Biochemistry Graduate Research Conference, Concordia University, Montreal, Nov. 15, 2019

Logan, S. and Storey, K.B. Brown and white adipose from hibernators sense and respond to inflammatory triggers differently. (oral)

Logan, S. and Storey, K.B. Fat but fit: how hibernating ground squirrel adipose tissue regulates pro-inflammatory signaling pathways. (poster)

Gupta, A. and Storey, K.B. NRF2 transcriptional network in anoxia-tolerant vertebrates. (oral)

Gupta, A. and Storey, K.B. Holding back Jumonji: OCT-1 induced epigenetic changes combat oxidative stress. (poster)

Singh, G. and Storey, K.B. MondoA is a master regulator of sugar-induced gene expression and link to circadian rhythms in frozen wood frog. (poster)

International Congress of Comparative Biochemistry and Physiology, Ottawa, ON, August 5-9, 2019.

Szerezewski, K. and Storey, K.B. Hibernating squirrels regulate inflammation in a tissue-specific manner. (oral)

Al-Attar, R. and Storey, K.B. Multifaceted regulation of autophagy and lysosomal biogenesis supports environmental stress-tolerance in wood frogs. (oral)

Al-Attar, R. and Storey, K.B. RAGE management: cyto-nuclear cross talk under oxidative stress. (oral)

Hawkins, L. and Storey, K.B. Phosphorylation of glycolysis and urea cycle enzymes in response to multiple stresses in a freeze tolerant vertebrate. (oral)

Watts, A. and Storey, K.B. Investigation of the molecular circadian clock during hibernation in the thirteen-lined ground squirrel. (oral)

Watts, A. and Storey, K.B. m6A RNA methylation modulates translational activity during hibernation in the 13-lined ground squirrel, *Ictidomys tridecemlineatus*. (poster)

Hadj-Moussa, H. and Storey, K.B. Genes of the undead: hibernation and death display different gene profiles. (oral)

Hadj-Moussa, H. and Storey, K.B. MicroRNAs facilitate metabolic rate depression in torpid primates: That's cool, now what? (oral)

Logan, S. and Storey, K.B. Hibernator state of mind: the molecular adaptations of torpid brains. (oral)

Green, S. and Storey, K.B. Regulation of the TCA cycle through modification of the α -ketoglutarate dehydrogenase complex in a mammalian hibernator, the Richardson's ground squirrel (*Urocyon richardsonii*). (oral)

Gupta, A. and Storey, K.B. NRF2 transcriptional network in anoxia-tolerant vertebrates. (oral)

Gupta, A. and Storey, K.B. Holding back Jumonji: OCT-1 induced epigenetic changes combat oxidative stress. (poster)

Singh, G. and Storey, K.B. MondoA is a key regulator of sugar-induced gene expression and link to circadian rhythms in frozen wood frogs. (poster)

Saleem, R. and Storey, K.B. Insight into the regulation of glutamate dehydrogenase in the wood frog liver. (poster)

*Nespolo, R., *Gaitan-Espitia, J.D., *Quintero-Galvis, J., *Fernandez, F., *Silva, A., *Molina, C., Storey, K., *Bozinovic, F. Endothermy, marsupials and hibernation: a tale from three continents. (oral)

RNA Enthusiast Day - TRENd 2019. Gilgan Centre for Research and Learning, University of Toronto, July 30, 2019

Hadj-Moussa, H. and Storey, K.B. Micromanaging freeze tolerance: The biogenesis and regulation of cytoprotective microRNAs in frozen brains and livers. (oral)

Watts, A., Storey, K.B. Methylation of RNA modulates translational activity during hibernation in the 13-lined ground squirrel (poster)

Society for Cryobiology, 56th annual meeting, San Diego, CA, July 22-25, 2019.

*Taylor, D., Germano, J., Marek-Iannucci, S., Hadj-Moussa, H., Storey, K., Gottlieb, R. Hypothermic regulation of cardiac mitochondrial dynamics.

Brain Health Research Day, Royal Institute of Mental Health Research, Ottawa, ON, May 9, 2019.

Watts, A.J., Hadj-Moussa, H. and Storey, K.B. Genes of the undead: hibernation and death display different gene profiles.

Ottawa-Carleton Biology Institute conference, Ottawa, ON, May4, 2019.

Hadj-Moussa, H. and Storey, K.B. Genes of the undead: Hibernators and zombies display different gene expression profiles.

Gupta, A. and Storey, K.B. OCT4 triggers a NRF2-mediated antioxidant response in anoxia-tolerant frogs.

Singh, G. and Storey, K.B. Mondo A: A key regulator of sugar-induced gene expression in frozen wood frogs *Rana sylvatica*.

Erman, A. and Storey, K.B. Biochemical adaptations to dehydration in the African clawed frog, *Xenopus laevis*, skeletal muscle.

Canadian Obesity Summit, Ottawa, April 23-26, 2019

Logan, S.M. and Storey, K.B. Fat but fit: How hibernating ground squirrel adipose tissue regulates pro-inflammatory signaling pathways.

2018

21st Chemistry & Biochemistry Graduate Research Conference (CBGRC 2018), Concordia Univ., Nov. 9, 2018

- Hadj-Moussa, H. and Storey, K.B. Genes of the undead: Do hibernators and zombies display similar expression profiles. (oral)
- Al-attar, R., Mahrous, S., Robert, J. and Storey, K.B. GATA4-mediated gene expression promotes muscle remodeling during stress in the freeze-tolerant wood frog *Rana sylvatica*. (poster)
- Gupta, A. and Storey, K.B. OCT induced transcriptional network in the freeze-tolerant wood frog. (poster)
- Lung, Z. and Storey, K.B. Peroxiredoxin expression in the wood frog, *Rana sylvatica* in response to freezing. (poster)
- Watts, A. and Storey, K.B. m6A methylation alters translational activity during hibernation in a small mammal, the 13-lined ground squirrel. (poster)
- Green, S. and Storey, K.B. Regulation of the TCA cycle through modification of the α -ketoglutarate dehydrogenase complex in a mammalian hibernator, the Richardson's ground squirrel (*Urocyon richardsonii*). (poster)
- Singh, G. and Storey, K.B. Mondo A: a key regulator of sugar-induced gene expression in frozen wood frogs, *Rana sylvatica*.
- Szerezewski, K. and Storey, K.B. Novel research – biochemistry and molecular biology of environmental stress. (poster)
- Storey, K.B. Gene regulation during hypometabolism – coping with environmental stress. (poster)

13th International Conference on Genomics, Shenzhen, China. October 25-28, 2018.

- English, S.G., Hadj-Moussa and Storey, K.B. The functional role of microRNAs in the anoxia tolerant northern crayfish, *Orconectes virilis*.
- Hawkins, L.J. and Storey, K.B. Changes in histone methyltransferases during freezing stress in the wood frog, *Rana sylvatica*.
- Hoyeck, M., Hadj-Moussa, H. and Storey, K.B. Regulation of MEF2 proteins and downstream targets in muscles of dehydrated and anoxic wood frogs.
- Al-attar, R. and Storey, K.B. Regulation of autophagy-related proteins in the freeze-tolerant wood frog, *Rana sylvatica*.
- Lung, Z. and Storey, K.B. DNA damage and repair mechanisms in the freeze-tolerant wood frog, *Rana sylvatica*.

4th International Congress of the Serbian Society for Mitochondrial and Free Radical Physiology, Belgrade, Serbia, September 28-29, 2018.

- Hadj-Moussa, H., Moggridge, J.A., Luu, B.E., Quintero-Galvis, J.F., Gaitán-Espitia, J.D., Nespolo, R.F., Storey, K.B.. The hibernating South American marsupial, *Dromiciops gliroides*, displays torpor-sensitive microRNA expression patterns.
- Watts, A., Storey, K.B. Lysine methylation regulates transcriptional control during hibernation *Ictidomys tridecemlineatus*.
- Szerezewski, K., Storey, K.B. A little PARP of DNA damage and repair during hibernation in the thirteen-lined ground squirrel.
- Logan, S.M., Storey, K.B. The response of cold-shock RNA-binding proteins during hibernation in 13-lined ground squirrels.

The Protein Society, 32nd Annual Symposium, Boston, MA, July 9-13.

Childers, C. and Storey, K.B. Creatine kinase post-translational modification in metabolic depression.

Canadian Society for Chemistry, Edmonton, Alberta, May 27-31.

*Blank, K., *Canez, C.R., Williamson, S., *Thomas, G., *Weinert, H, Storey, K.B. and *Smith, J.C. Investigating the lipidomic dynamics of extreme temperature changes.

Ottawa-Carleton Biology Institute conference, Ottawa, ON, May 3.

- English, S.G., Storey, K.B. The functional role of microRNAs in the anoxia tolerant northern crayfish, *Orconectes virilis*.
- Lung, Z., Storey, K.B. DNA damage and repair mechanisms in the wood frog, *Rana sylvatica*.
- Mattice, J., Storey, K.B. Glutathione reductase in response to ischemic stress in the dehydration-tolerant African clawed frog, *Xenopus laevis*.